

**STATE FOREST LAND
ENVIRONMENTAL CHECKLIST**

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at <http://www.dnr.wa.gov> under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

Timber Sale Name: **A. Jackson**

Agreement #: **30-078858**
2. Name of applicant: **Department of Natural Resources**
3. Address and phone number of applicant and contact person:

Northwest Region
919 North Township St.
Sedro-Woolley, WA 98284

Contact Person: Candace Johnson
Telephone: (360) 856-3500
4. Date checklist prepared:
5. Agency requesting checklist: **Department of Natural Resources**
6. Proposed timing or schedule (including phasing, if applicable):
 - a. *Auction Date:* **December 11, 2006**
 - b. *Planned contract end date (but may be extended):* **September 30, 2008**
 - c. *Phasing:* **N/A**
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Timber Sale
 - a. *Site preparation:* **Treatment will be assessed in 2-3 years**
 - b. *Regeneration Method:* **Hand plant conifer seedlings**
 - c. *Vegetation Management:* **Treatment will be assessed in 2-3 years**
 - d. *Thinning:* **Treatment will be assessed in 10-15 years**

Roads:
Approximately 10,004 feet of new road will be constructed with this proposal. The ST-16, ST-1626, and CN-1128 will continue to be used for future forest management activities. The CN-1112 will be abandoned from the bridge to the interior of Unit #1 following harvest activities.

Rock Pits and/or Sale:
The following rock pits are to be used for timber sale road and landing construction, road maintenance, and forest management activities.
Crane Creek Rock Pit located in Section 26 Township 33 North Range 5 East W.M.
Mt. Washington Hard Rock Pit located in Section 30 Township 33 North Range 6 East W.M.
ST-1624 Hard Rock Pit located in Section 36 Township 33 North Range 5 East W.M.
Also, onsite rock may be used for road construction, if rock sources are discovered along haul routes or within the sale area.

Other: **None.**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☒ 303 (d) – listed water body in WAU: ☒ temp ☐ sediment ☐ completed TMDL (total maximum daily load):

Pilchuck Creek Section 15 Township 32 North, Range 5 East

Identified section of Pilchuck Creek is located approximately 1 mile downstream of timber sale area.

☐ Landscape plan:

☐ Watershed analysis:

☐ Interdisciplinary team (ID Team) report:

☒ Road design plan: **Available at the Northwest Region office.**

☐ Wildlife report:

☐ Geotechnical report:

☐ Other specialist report(s):

☐ Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):

☒ Rock pit plan: **Available at the Northwest Region office.**

☒ Other: **Forest Resources Plan Environmental Impact Statement (1992), Final Habitat Conservation Plan (1997), State Soil Survey (1992).**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. **None known.**

10. List any government approvals or permits that will be needed for your proposal, if known.

☐ HPA ☐ Burning permit ☐ Shoreline permit ☐ Incidental take permit ☒ FPA # _____ ☐ Other:

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. *Complete proposal description:*

Proposal area:

The A Jackson timber sale is a regeneration harvest comprised of two timber sale units. Access is via the CN-ML (Crane Creek mainline) from the Granstrom-Finn Settlement Road off of HWY 9 in Skagit County, and/or the ST-ML (Stimson mainline) off of Cedarvale Loop Road in Snohomish County. The proposal lies on the western and northwestern slopes of Mt. Washington and is surrounded by state trust land.

Gross Acreage: 103.7 acres

Timber Sale Harvest Area:

The timber sale acreage, Unit #1 = 90.2 acres, Unit #2 = 2.9 acres (rock pit development area), and an additional 9 acres of right-of-way harvest area comprised of 0.8 acres in the lower western right-of-way and 8.2 acres in the upper eastern right-of-way. Leave tree clump acreage = 1.6 ac. This is also referred to as "net area" or "net harvest area" in this application (Gross acreage - leave tree area = net harvest area).

Sale of Timber:

Estimated Volume: 3,985 mbf

Total # of Units: 2

Landings: 6

Total net harvest area: 102.1 acres

Type of Harvest: Regeneration Harvest

Logging System: Cable & Ground based yarding

Trees outside the sale boundaries may be used for guyline and / or tailholds for the purpose of accomplishing cable yarding.

Leave Tree Strategy:

In Unit #1, 8 trees per acre will be left in accordance with the HCP. Retention trees were both scattered and clumped to provide a wide variety of upland habitat diversity. Trees selected for retention are generally either in the dominant or co-dominant crown classes, containing structural characteristics important to wildlife, and indicating wind firmness. Leave tree clumps were tagged with yellow leave tree area tags and blue butt-spots. Scattered leave trees were painted with blue rings and butt-spots. In the lower western portions of Unit #1 larger Douglas-fir trees were targeted as leave trees due to the abundance and wind firmness. Leave tree clumps were located around snags and green trees with unique structural characteristics. No leave trees were marked in Unit #2; this harvest area has been identified for development of a rock pit.

b. *Timber stands description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*

Unit #1 is a naturally regenerated stand that lies within the westside western hemlock zone and ranges in age from 60-70 years old. This unit varies in species composition with Douglas-fir on the lower western slopes, changing to a western hemlock dominated stand with the increase in elevation. A small area of red alder lies on a bench near the middle of the slope. An occasional Pacific silver fir and mountain hemlock can be found in the upper elevations of this proposal.

Elevations within this unit range from 1,200 to 2,700 feet. Major shrub species are vine maple, salmon berry, red huckleberry, and Oregon grape. Slopes are moderate to steep, ranging from 10% to 75%. This proposal is located within the Cavanaugh and Lower NF Stillaguamish WAUs.

The primary objective for this regeneration harvest proposal is to generate revenue for the State Forest Board Transfer (Trust 01) and Common School (03), protecting water quality, maintaining site productivity, minimizing impacts to the Stillaguamish Valley watershed, and protecting/enhancing overall wildlife habitat through a green tree retention strategy. This proposal meets or exceeds all of the guidelines and prescriptions set forth in the DNR Habitat Conservation Plan, Forest Resource Plan, and Forest Practices Rules and Regulations.

c. Road activity summary. See also forest practice application (FPA) for maps and more details.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		10004	4.13	0
Temporary Construction		1132	0.47	0
Reconstruction		300		0
Abandonment		1800	0.74	0
Bridge Install/Replace	1			0
Culvert Install/Replace (fish)	0			0
Culvert Install/Replace (no fish)	24			

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. (See timber sale map. See also color landscape/WAU map on the DNR website <http://www.dnr.wa.gov> under “SEPA Center.”)

a. Legal description: **Parts of Sections 26, 35, and 36 Township 33 North, Range 05 East, W.M.; Section 30 and 31 Township 33 North, Range 06 East, W.M.**

b. Distance and direction from nearest town (include road names):

Directions: This proposal is located approximately 14 miles from Arlington via county road and state land forest roads. Unit #1 of the A Jackson timber sale can be accessed via the CN-ML and the ST-ML.

Access via CN-ML:

Travel north 5.4 miles from Arlington on Hwy 9 and turn right on the Granstrom road. Travel 4.4 mi. turn right on the CN-ML and travel 1.1 mi cross the bridge at Pilchuck Creek and take the first right up the hill on to CN-11. Continue 1.1 miles to a “T” intersection and turn right.

Access via ST-ML:

To access the upper portions of Unit #1 via the ST-ML: travel north from Arlington on Hwy 9 to Bryant and turn right on the Grandview Road. Travel 4.6 miles to Cedarvale Loop and turn left. Travel 1.6 miles to the yellow gate on the north side of the road and travel 1.6 miles up the hill on the ST-ML road to the ST-16 road and turn left. Travel 1.4 miles to the intersection of the ST-16 and ST-1614 and turn left and continue .6 mi. to the beginning of the new right-of-way.

b. Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website <http://www.dnr.wa.gov> under “SEPA Center.”)

WAU/Sub-basin Name	WAU/Sub-basin Acres	Proposal Acres
Cavanaugh	29,882	86.0
Sub-basin 1:	3,310	86.0
Lower NF Stillaguamish	36,686	16.1
Sub-basin 2:	2,271	3.0
Sub-basin 3:	2,841	13.1

Acres include right-of-way

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website <http://www.dnr.wa.gov> under “SEPA Center” for a broader landscape perspective.)

WAU	Acres	DNR Acres	Non-DNR Acres	% DNR Land in WAU	% Non-DNR Land in WAU	Proposal Acres	% of total WAU in Proposal
Cavanaugh	29,882	16,946	12,936	57	43	86.0	<1
Lower NF Stillaguamish	36,686	14,534	22,152	40	60	16.1	<1

The following table reports timber harvest activity in the Cavanaugh and Lower North Fork Stillaguamish WAU’s within the past seven years on both DNR managed lands and non-DNR lands. The data was compiled from the Department’s Forest Practices’ GIS database. This information is based on the best available information as of May 22, 2006.

WAU	DNR harvest acres: Even-aged	DNR harvest acres: Uneven-aged	Non-DNR harvest acres: Even-aged	Non-DNR harvest acres: Uneven-aged
Cavanaugh	1,708	99	777	12
Lower NF Stillaguamish	1,105	367	918	546

In addition to this proposal, two other regeneration harvests, and one partial cut are proposed for 2007 in the Cavanaugh WAU, totaling approximately 280 acres. In the Lower North Fork Stillaguamish one additional regeneration harvest is planned that is approximately 106 acres. Future forest management activities in the WAU will include road building, rock pit expansion, silvicultural work and timber harvesting. Activities occurring on DNR managed land will follow Forest Practices Rules, Habitat Conservation Plan (HCP) guidelines, and the Forest Resource Plan – policies designed to minimize environmental impacts. Future forest management activities on privately managed, non-DNR lands will be subject to Forest Practice Rules.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☐Hilly, ☒Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

The Cavanaugh WAU varies in landforms from flat to mountainous with an elevation range of 393 to 3,966 feet and a mean elevation of 1,631 feet. Several mountains in the WAU include Mt. Washington, Table Mountain, Frailey Mountain, and Bald Mountain. Streams within the WAU flow into Pilchuck Creek or Lake Cavanaugh. Rainfall within the WAU ranges 45 to 80 inches annually, with an average of 59 inches. In general, this WAU is in the western hemlock zone. Timber types range from hardwood to conifer. The low to mid-high elevations are populated with red alder, bigleaf maple, and/or cottonwood hardwood stands, and Douglas-fir, western hemlock, and/or western redcedar conifer stands. The higher elevations in the WAU contain conifer stands generally comprised of Pacific silver fir, western hemlock, and/or western redcedar.

The Lower North Fork Stillaguamish WAU is generally a southern facing aspect with stream flow to the south or southeast. The streams empty into the North Fork of the Stillaguamish River. The slopes in the WAU vary from rolling to steep, with an elevation range of 50 to 3,600 feet. Rainfall ranges from 40 to 85 inches annually. In general, this WAU is in the western hemlock zone. Timber types range from hardwood to conifer. The low to mid-high elevations include red alder, bigleaf maple, and/or cottonwood hardwood stands, and Douglas-fir, western hemlock, and/or western redcedar conifer stands. The highest elevations in the WAU are conifer stands generally comprised of Pacific silver fir, western hemlock, and/or western redcedar.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The A. Jackson proposal lies on a west to northwest aspect and ranges in elevation from 1,200 to 2,700 feet with flat to steep slopes.

b. What is the steepest slope on the site (approximate percent slope)?

This proposal has slopes up to 75%. Isolated rocks and outcrops have slopes, which exceed 75%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on landform shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture	% Slope	Acres	Mass Wasting Potential	Erosion Potential
1281 CUPPLES	Gravelly silt loam	3-30	3	Insignificant	Low
0126 ANDIC CRYOCHREPTS	Very gravelly loam	60-90	43.3	High	High
5601 OAKES	Gravelly silt loam	30-65	45	Medium	Medium
8107 TOKUL	Gravelly loam	15-30	10.8	Insignificant	Low

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) Surface indications:

Surface indications of unstable slopes occur in the upper elevations of this proposal. Inner-gorge features along type 4 and type 5 streams have been identified by the NW Region geologist/hydrologist. Instability occurs on inner gorge slopes along 4 stream segments within and adjacent to this proposal. This proposal stays off of these areas. Type 4 stream segments with inner gorge characteristics are protected with 100 foot no harvest buffers. Type 5 stream segments with inner gorge characteristics have been protected at the break in slope by a no harvest buffer identified by blue special management boundary tags. The actual buffer width varies between 5 to 25feet throughout the type 5 stream segments. No harvesting or yarding will occur within these areas.

Lower North Fork Stillaguamish:

There is some evidence of small (shallow) slope failures (less than 0.2 acres) along some of the stream reaches in the Lower North Fork Stillaguamish WAU. These are generally associated with stream reaches in steep draws that have formed by cutting through dense glacial till. A shallow, rapid failure occurred on the upper slopes of Stimson Hill during the winter storms of 1997/1998. This failure, which became a debris torrent started in section 31 and flowed into section 32 of Township 33 North, Range 06 East, W.M. This area is approximately 1½ miles southeast of this proposal. The NW Region soils specialist notes that large, very old deep- seated (bedrock involved) failures have occurred on the northeast and south sides of Stimson Hill. There are no areas similar to the site mentioned above located in this proposal.

Cavanaugh:

There is some evidence of small shallow slope failures (less than 0.2 acres) along some of the stream reaches in the Cavanaugh WAU. These are generally associated with stream reaches in steep draws that have formed by cutting through dense glacial till.

- 2) *Is there evidence of natural slope failures in the sub-basin(s)?*
☐No ☒Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:

Inner gorge topography is present on four stream segments adjacent to the proposal area. These areas have been bounded out of the sale area. Shallow, rapid failures occur on inner gorge slopes and bank erosion is typical along incised stream channels.

- 3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*
☐No ☒Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:
Associated management activity:

Cavanaugh WAU: Some shallow rapid slope failures in the sub-basin may possibly be attributed to older timber harvest and road construction. No specific locations known.

Lower North Fork Stillaguamish WAU: Shallow rapid slope failures have occurred on the south side of Frailey Mountain. These failures may possibly be attributed to older timber harvest and road construction. There will be no road construction or harvesting activity within these or similar areas.

The 1983 aerial photos do show evidence of past failures and some resultant debris torrents (shallow failures) originating at stream crossings on the now abandoned Frailey Mountain Truck Road. Historical practices resulted in slope failures that triggered debris torrents. Current forest practice and HCP regulations protect streams with buffers and leave trees, and culverts are sized for peak flow events.

- 4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?*
☐No ☒Yes, describe similarities between the conditions and activities on these sites:

The streams within this proposal have similar topography to some of the streams that experienced slope failures in the past; however, updated road construction practices and the protection measures contained in B.1.d.5 below should ensure no negative effects from this proposal. No road construction activities are planned within areas where potential slope failures could occur.

- 5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.*

As mentioned in B.1.d.1 above, inner gorge topography exists in stream channels adjacent to the proposal. The width of a stream buffer on the Type 4 stream that forms the northern boundary was increased in localized areas to include potentially unstable portions of the stream bank. Additionally, two Type 5 streams have inner gorge slopes that were bounded out of the sale: which excludes inner gorge features from all harvest activity. Leave tree clumps are located at the origin of these Type 5 streams to give extra protection to a potentially unstable area. Timber sale layout is designed to avoid yarding over inner gorge stream channels.

Timber sale harvest activities were located on stable landforms. Roads were designed in accordance with Forest Practice rules and have been located outside of sensitive slope stability areas. Ground-based harvesting is designed for slopes less than 25%. All cable yarding will require a minimum of one end suspension. Trees will be felled and yarded away from stream channels where feasible.

- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: 4 acres Approx. acreage new landings: 1 acres Fill source: Native material

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Some localized erosion could occur during road construction and log transportation activities. However, prudent road construction techniques and normal maintenance practices will minimize the amount of erosion.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

Approximately 3% of the site will be covered with impervious surfaces.

- h. Propose measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

Ground base harvesting, will be restricted to the dry season and limited to slopes less than 25%. Energy dissipaters will be installed with culverts to reduce erosion. Relief pipes will be strategically placed to reduce road ditch sediment from entering live streams. Slopes that are exposed during road construction activities will be revegetated to reduce sediment-laden runoff.

2. Air

- a. What types of emissions to the air would result from the proposal (i.e., dust from truck traffic, rock mining, crushing or hauling, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.
During harvesting activities, no emissions are anticipated other than minor amounts of equipment exhaust and road dust created by log hauling activities. Following harvest, logging slash may be burned.
- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
Not applicable.
- c. Proposed measures to reduce or control emissions or other impacts to air, if any:
If slash burning occurs, it will adhere to the Washington State Smoke Management Act.

3. Water

- a. Surface:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. (*See timber sale map and forest practice base maps.*)
- a) *Downstream water bodies:*
All watercourses within the proposal flow into Pilchuck Creek or Rock Creek and eventually into the North Fork Stillaguamish River.
- b) *Complete the following riparian & wetland management zone table:*

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Unnamed Stream	Type 3 F	1	188 foot no harvest buffer
Unnamed Stream	Type 4 (Np)	4	100 foot no harvest buffer
Unnamed	Type 5 (Ns)	6	30 feet equipment limitation zone 5-25 foot no harvest buffer where applicable

- c) *List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.*
All existing road through RMZ's will be monitored during hauling to ensure that ditchwater and road runoff will not enter surface water or otherwise adversely impact water quality or RMZ function. Corrective action such as straw bales, silt fencing, rock-lined ditches, and sediment traps will be installed/constructed as necessary. Additionally, the following specifics were incorporated into this proposal:
- **Type 3 stream:** CN-1112 was located to minimize the amount of road construction that will occur within the site II RMZ width of 188 feet. Although no tags have been posted identifying a designated RMZ, field measurements were acquired to minimize the right-of-way (ROW) length within the RMZ. Less than 100 feet of ROW actually crosses through the Type 3 RMZ. No wind buffer was needed for this 100 feet within the ROW.
 - **Type 4 streams:** 100 foot no-harvest buffer, wider if necessary to protect potentially unstable areas
 - **Type 5:** 30-foot equipment limitation zone and 5-25 foot no harvest buffer identified by a special management boundary to prevent harvesting and yarding across inner gorge stream banks. Sale layout was designed to avoid yarding side hill in overly steep areas and in or across Type 5 streams.

All existing roads through RMZ's will have Best Management Practices (BMP's) applied during hauling to ensure ditchwater and runoff will not enter or otherwise adversely affect water quality or RMZ function. All type-5 streams will have a 30-foot equipment limitation zone on both sides of the channel.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐No ☒Yes (*See RMZ/WMZ table above and timber sale map.*)
Description (include culverts):
- The CN-1112 is proposed to cross an Np (type-4) stream segment, with a log stringer bridge. The bridge will be temporary and removed when harvest operations are completed. This bridge will allow access to the interior of Unit #1, enabling ground base yarding in the immediate vicinity and downhill yarding from at least mid-slope. The CN-1112 will be constructed so that all runoff is directed away from the adjacent RMZ and discharged to the forest floor.**
- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
Not applicable.
- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. (*Include diversions for fish-passage culvert installation.*)
☒No ☐Yes, *description:*
- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒No ☐Yes, *describe location:*
- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒No ☐Yes, *type and volume:*
- 7) *Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?*

The sub-basin contains soils that are susceptible to surface erosion and/or mass wasting according to the state soil survey data. The soil survey data for soils on the harvest site indicate an insignificant to high potential for mass wasting and a low to high potential for surface erosion (see B.1.c above). Slopes in the proposal area are subject to local surface erosion where surface soils are disturbed. Some soil disturbance is anticipated in conjunction with yarding and road construction activities. Surface erosion control/prevention measures discussed in B.1.h. will minimize or prevent delivery to surface waters. It is not believed that any eroded material will enter surface waters as a result of activities associated with this proposal.

- 8) *Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?*
☐No ☒Yes, describe changes and possible causes:
At the WAU level, there is evidence of accelerated aggradations of channels at the base of hill slopes and channel scouring at the upper reaches of streams with change in the quantity of LOD in the channels as well as changes in the channel attributes. The proposed units have been located in areas that do not exhibit potential instability.
- 9) *Could this proposal affect water quality based on the answers to the questions 1-8 above?*
☒No ☐Yes, explain:
- 10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)?
 Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?*
☒No ☐Yes, describe:

**Cavanaugh WAU: 4.4 road miles per square mile.
 Sub-basin 1: 6.3 road miles per square mile.
 Lower North Fork Stillaguamish WAU: 3.8 road miles per square mile.
 Sub-basin 2: 4.3 road miles per square mile.
 Sub-basin 3: 4.1 road miles per square mile.**

- 11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not, **STOP HERE** and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☐No ☒Yes, approximate percent of WAU in significant ROS zone.
Approximate percent of sub-basin(s):

Approximately 58.1 acres of this proposal (including right-of-way) lies within a significant rain-on-snow zone. Portions of Lake Cavanaugh WAU sub-basin 1 and Lower North Fork Stillaguamish WAU sub-basin 2 and sub-basin 3 are within the significant rain-on-snow zone.

- **Lake Cavanaugh Sub-basin 1 = 45 ac.**
- **Lower NF Stillaguamish Sub-basin 3 = 12.8 ac.**
- **Lower NF Stillaguamish Sub-basin 2 = .3 ac.**

Procedure 14-004-060 of the DNR Forestry Handbook will not apply. According to data derived from hydrologic maturity reports, all three sub-basins associated with this proposal are not considered to be in a critical status when assessing hydrological maturity, due to less than 33% of the sub-basin is located within the SROS.

- **Cavanaugh WAU Sub-basin 1 = 5.89% (195 acres) occurs within SROS**
- **Lower North Fork Stillaguamish WAU Sub-basin 2 = 2.86% (65 acres) occur within SROS**
- **Lower North Fork Stillaguamish WAU Sub-basin 3 = 20.31% (577 acres) occur within SROS**

- 12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?*

Not applicable. See B-3-a-11

- 13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐No ☒Yes, describe observations:

Channel changes have occurred at the WAU level. It is difficult to separate the affects of peak stream flow increases from the effects of mass wasting in stream channels. The effects are interrelated and often occur during the same storm events (see B.3.a.8.). No channel changes are apparent within the sub-basin.

- 14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

This proposal should not cause peak flow impacts in the WAU or sub-basin. No-harvest buffers protect type 4 streams, 30-foot equipment limitation zones protect type 5 streams, and 5-25 foot no harvest buffers adjacent to inner gorge features along type 5 streams are protected within the proposal area. Considering the above protective measures a significant increase in peak flow is unlikely. See questions B-3-a-1-c and B-3-a-2.

- 15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☒No ☐Yes, possible impacts:

- 16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

This project should have minimal influence on peak flow. The project will retain trees on site (see B.4.b.2), which will assist in the continued infiltration of water during storm events, mitigating the influence of removing timber off the site. Also, all perennial water sources were provided riparian buffers (see B.3.a.1.b above), which is a retaining of green trees in the proposal site in addition to those counted in B.4.b.2. All roads will be constructed to meet or exceed Forest Practice standards. Also, yarding and log transportation will be restricted during unfavorable weather conditions so as to reduce the potential of impacting water quality.

b. Ground Water:

- 1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

Channeling water through ditches and culverts emptying out onto the forest floor will increase surface saturation in localized areas, but is not expected to effect ground water.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Not applicable.

- 3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☒No ☐Yes, describe:

a) *Note protection measures, if any.*

Due to the nature of resource protective measures of the proposal, there should be no measurable affect on down-slope or downstream ground water resources. See B.3.a.16 above.

c. Water Runoff (including storm water):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water runoff intercepted by gravel roads will collect in road ditches and be diverted through cross drain culverts back to the forest floor. Runoff is not expected to flow into other waters, with proper placement of culverts.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

It is not expected that any waste materials will enter ground or surface waters in conjunction with this proposal.

a) *Note protection measures, if any.*

None.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

4. Plants

a. Check or circle types of vegetation found on the site:

- ☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☒cottonwood, ☐western larch, ☐birch, ☐other:
☒evergreen tree: ☒Douglas-fir, ☐grand fir, ☐Pacific silver fir, ☐ponderosa pine, ☐lodgepole pine,
☒western hemlock, ☐mountain hemlock, ☐Englemann spruce, ☐Sitka spruce,
☒red cedar, ☐yellow cedar, ☐other:
☐shrubs: ☐huckleberry, ☒salmonberry, ☒salal, ☐other:
☐grass
☐pasture
☐crop or grain
☐wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☐skunk cabbage, ☒devil's club, ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐other types of vegetation:
☐plant communities of concern:

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

This proposal will partially remove second growth conifer and deciduous trees on approximately 102.1 acres of conifer forest. Some alteration of shrubs and ground vegetation may occur during the course of harvest activity.

- 1) *Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: <http://www.dnr.wa.gov> under "SEPA Center.")*

Timber types immediately adjacent to this proposal vary from young stands to 70-year-old second growth.

Unit #1 is bordered to the:

- west by a 20 year old stand of planted Douglas-fir
- south by a stand of planted Douglas-fir with average heights > 4ft.
- north by a 60-70 year old naturally regenerated stand of western hemlock and Douglas-fir
- east by a 50-60 year old naturally regenerated stand of western hemlock and Douglas-fir.

All timber adjacent to this proposal is managed by the DNR.

- 2) *Retention tree plan:*

The leave tree strategy within the proposal area was designed to protect structurally unique trees and snags where possible, and provide a legacy of trees that are representative of the existing stands. Legacy tree levels were determined in accordance with DNR Forestry Handbook Procedure. Leave trees are both scattered and clumped to provide a variety of upland habitat diversity. Selected trees are either in the dominant or co-dominant crown classes, contained structural characteristics important to wildlife, or

appear to be windfirm (i.e., trees located at the edge of mature timber and younger stands, that have already been exposed to the wind). Leave trees will be distributed throughout each unit to ensure that openings will be no larger than 400 feet wide. See leave tree strategy (A.11.a)

- c. List threatened or endangered *plant* species known to be on or near the site.
DNR's Trax system indicates no known threatened, endangered, or special concern species on or near the sale area.
- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
Wildlife and green retention trees will be left on site in a clumped and scattered pattern. Douglas-fir, western redcedar, and noble fir seedlings will be planted upon completion of the proposal. Furthermore, soils exposed due to road construction will be revegetated.

5. Animal

- a. Circle or check any birds animals or *unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☐songbirds, ☐pigeon, ☒other: **pileated woodpeckers**
mammals: ☒deer, ☒bear, ☐elk, ☐beaver, ☐other:
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐talus slopes, ☐caves, ☐cliffs, ☐oak woodlands, ☐balds, ☐mineral springs

- b. List any threatened or endangered species known to be on or near the site (*include federal- and state-listed species*).
None known.

- c. Is the site part of a migration route? If so, explain.
☒Pacific flyway ☐Other migration route: Explain if any boxes checked:

All of Washington State is considered part of the Pacific flyway. No adverse impacts are anticipated as a result of this proposal.

- d. Proposed measures to preserve or enhance wildlife, if any:
 - 1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.
Species /Habitat: **pileated woodpeckers**
Protection Measures: **All trees showing evidence of pileated woodpecker activity were marked with blue paint as leave trees.**

6. Energy and Natural Resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.
Does not apply.
- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.
Does not apply.
- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:
Does not apply.

7. Environmental Health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.
 - 1) Describe special emergency services that might be required.
In the event of a fire, wildland firefighting services may be required.
 - 2) Proposed measures to reduce or control environmental health hazards, if any:
The timber purchaser will be required to have fire suppression equipment on site during the restricted fire season while harvest activity is ongoing. Also, the DNR employs seasonal fire fighting crews to reduce the response time period for the initial attack phase of wildfire suppression.
- b. Noise
 - 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? **None**
 - 2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.
Noise from road construction and harvest activity will be present in the immediate vicinity of this proposal during the course of operations. Noise from log hauling will be present along the haul routes during the course of operations.
 - 3) Proposed measures to reduce or control noise impacts, if any:
None. Noise associated with harvest and road construction activity will be temporary and minimal anywhere but in the immediate vicinity of the proposal. Harvest activity and log hauling are ordinary activities in the area and noise should not be present above customary levels.

8. Land and Shoreline Use

- a. What is the current use of the site and adjacent properties? (*Site includes the complete proposal, e.g. rock pits and access roads.*)
Forest management (timber production)
- b. Has the site been used for agriculture? If so, describe.
No.
- c. Describe any structures on the site.
No structures on site.
- d. Will any structures be demolished? If so, what?
Does not apply.
- e. What is the current zoning classification of the site?
Commercial Forest.
- f. What is the current comprehensive plan designation of the site?
Forestry
- g. If applicable, what is the current shoreline master program designation of the site?
Does not apply.
- h. Has any part of the site been classified as an “environmentally sensitive” area? If so, specify.
None known.
- i. Approximately how many people would reside or work in the completed project?
Does not apply.
- j. Approximately how many people would the completed project displace?
Does not apply.
- k. Proposed measures to avoid or reduce displacement impacts, if any:
Does not apply.
- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
The design of this project is consistent with current comprehensive plans and zoning regulations.

9. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
Does not apply.
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
Does not apply.
- c. Proposed measures to reduce or control housing impacts, if any:
Does not apply.

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?
Does not apply.
- b. What views in the immediate vicinity would be altered or obstructed?
 - 1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*
☐No ☒Yes, viewing location:
Portions of this proposal will be visible by residents of the Big Lake residential area.
 - 2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*
☒No ☐Yes, scenic corridor name:
 - 3) *How will this proposal affect any views described in 1) or 2) above?*
Distant vistas of forest management are consistent with many of the views from the Big Lake area and are consistent with the mosaic of landscape, which currently exists and has been continually changing over the last 100 years. Any affects of the viewshed will be temporary since reforestation activities will take place immediately following harvest activities.
- c. Proposed measures to reduce or control aesthetic impacts, if any:
Unit placement and leave tree locations have been arranged to reduce temporary impacts to the surrounding viewshed.

11. Light and Glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?
None.
- b. Could light or glare from the finished project be a safety hazard or interfere with views?
None.
- c. What existing off-site sources of light or glare may affect your proposal?
None.
- d. Proposed measures to reduce or control light and glare impacts, if any:
None.

12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?
Currently no formal recreational opportunities are available in the immediate vicinity; however, informal use may include ORV riding, hiking and horseback riding.
- b. Would the proposed project displace any existing recreational uses? If so, describe:
No.
- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
None.

13. Historic and Cultural Preservation

- a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.
None.
- b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.
In the S1/2SW1/4, Section 30, Township 33 North, Range 6 East, the area was railroad logged. Old grades are present. Two sets of railcar trucks are known to be in the area.
- c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)
In association with a past proposal, DNR's archeologist visited the area on May 22, 2002 and documented the railcar trucks. These railcar trucks do not meet the high standard for listing in State or National Register.

14. Transportation

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.
Highway 9, Granstrom/Finn Settlement Road, Cedarvale Loop Road
- 1) *Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?*
There are no indications that this proposal will contribute to such a problem. The proposal is consistent with historical use of the area. The transportation of logs from the site may contribute 5 to 20 trips per day during active portions of the project. Logging trucks are, and have been a normal part of traffic patterns in the area for 70 years.
- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?
No.
- c. How many parking spaces would the completed project have? How many would the project eliminate?
None.
- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).
Does not apply.
- 1) *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?*
It may have minimal, but temporary, impact on the Granstrom/Finn Settlement Road, Lake Cavanaugh Road, and Highway 9, but this would not be unusual for the area.
- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.
No.
- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.
Trips approximately once a month for management purposes, for the first 5-10 years after the completion of the proposal.
- g. Proposed measures to reduce or control transportation impacts, if any:
Safe operation of vehicles will be encouraged.

15. Public Services

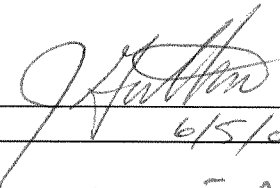
- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.
No.
- b. Proposed measures to reduce or control direct impacts on public services, if any.
None.


16. Utilities

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.
None.
- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.
None.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by:  UNIT FORESTER 6/5/06, Date:
6/5/06 Title

Reviewed by:  Cascade DM 6/5/06, Date:
Title

Approved by: _____, Date:
Title